Patent claims

1. A nucleic acid which encodes a human deadenylating nuclease (DAN) having an amino acid sequence as depicted in SEQ 11 or a functional variant thereof, and parts thereof having at least 8 nucleotides, with SEQ 11 being part of the claim.

2. A nucleic acid as claimed in claim 1, wherein the nucleic acid is a DNA or RNA, preferably a double-stranded DNA.

3. A nucleic acid as claimed in claim 1 or 2, wherein the nucleic acid is a DNA having a nucleic acid sequence as depicted in SEQ 12 from position 58 to 1977, with SEQ 12 being part of the claim.

4. A nucleic acid as claimed in claim 3, wherein the nucleic acid contains one or more noncoding sequences and/or a polyA sequence.

5. A nucleic acid as claimed in one of claims 1-4, wherein the nucleic acid is contained in a vector, preferably in an expression vector or a vector which is effective in gene therapy.

6. A process for preparing a nucleic acid as claimed in one of claims 1-4, wherein the nucleic acid is synthesized chemically or isolated from a gene library using a probe.

7. A polypeptide having an amino acid sequence as depicted in SEQ 11 or a functional variant thereof, and parts thereof having at least 6 amino acids.

8. A process for preparing a polypeptide as claimed in claim 7, wherein a nucleic acid as claimed in one of claims 1-5 is expressed in a suitable host cell.

9. An antibody directed against a polypeptide as claimed in claim 7.

10. A process for preparing an antibody as claimed in claim 9, wherein a mammal is immunized with a polypeptide as claimed in claim 7 and the resulting antibodies are isolated, where appropriate.

11. A pharmaceutical which comprises a nucleic acid as claimed in one of claims 1-5 or a polypeptide as claimed in claim 7 and, where appropriate, pharmaceutically acceptable additives and/or adjuvants.

12. A process for producing a pharmaceutical for treating cancer, autoimmune diseases, in particular multiple sclerosis or rheumatoid arthritis, Alzheimer's disease, allergies, in particular neurodermatitis, type I allergies or type IV allergies, arthrosis, atherosclerosis, osteoporosis, acute and chronic infectious diseases and/or diabetes, and/or for influencing the metabolism of the cell, in particular in association with immunosuppression, very particularly in association with transplantations, wherein a nucleic acid as claimed in one of claims 1-5 or a polypeptide as claimed in claim 7 or antibodies as claimed in claim 9 is formulated together with a pharmaceutically acceptable additive and/or adjuvant.

13. A diagnostic agent which comprises a nucleic acid as claimed in one or claims 1-5 or a polypeptide as claimed in claim 7 or antibodies as claimed in claim 9 and, where appropriate, suitable additives and/or adjuvants.

14. A process for preparing a diagnostic agent for diagnosing cancer, autoimmune diseases, in particular multiple sclerosis or rheumatoid arthritis, Alzheimer's disease, allergies, in particular neurodermatitis, type I allergies or type IV allergies, arthrosis, atherosclerosis, osteoporosis, acute and chronic infectious diseases and/or diabetes, and/or for analyzing the metabolism of the cell, in particular the immune status, very particularly in association with transplantations, wherein a pharmaceutically acceptable excipient is added to a nucleic acid as claimed in one of claims 1-5 or a polypeptide as claimed in claim 7 or antibodies as claimed in claim 9.

15. A test for identifying functional interactors, comprising a nucleic acid as claimed in one of claims 1-5 or a polypeptide as claimed in claim 7 or antibodies as claimed in claim 9 and, where appropriate, suitable additives and/or adjuvants.

16. The use of a nucleic acid as claimed in one of claims 1-5 or a polypeptide as claimed in claim 7 for identifying functional interactors.

17. The use of a nucleic acid as claimed in one of claims 1-5 for finding variants of human DAN, wherein a gene library is screened with said nucleic acid and the variant which is found is isolated.

18. The use of a polypeptide as claimed in claim 7 for the poly(A)-specific degradation of nucleic acids, in particular of mRNA.